How to build a *transistorized* PORTABLE RADIO with the G-E 2N107

EXPERIMENTERS, HOBBYISTS, HAMS!

Now, build transistorized radios, amplifiers, and many other standard circuits with a quality-tested transistor—the General Electric type 2N107. This low priced transistor is all welded and hermetically sealed to insure long life and uniform characteristics.

The 2N107 represents more-power-per-dollar to the experimenter and provides the same optimum service and dependability found in General Electric's higher priced devices.

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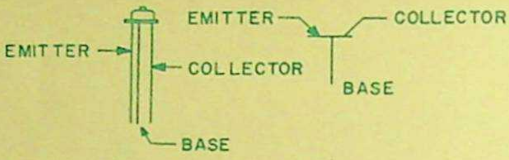
Stock No. 7E442 G-E 2N107 Transistor Net $1.25

PNP JUNCTION TRANSISTOR TYPE 2N107

The General Electric type 2N107 is a diffused junction P-N-P transistor particularly recommended for students, experimenters, hobbyists, and hams. It is available only from franchised General Electric distributors. The 2N107 is hermetically sealed and will dissipate 50 milliwatts in 25°C free air.



SPECIFICATIONS

ABSOLUTE MAXIMUM RATINGS:

Collector Voltage (referred to base), V_c	−12 volts
Collector Current, I_c	−10 ma
Emitter Current, I_e	10 ma
*Junction Temperature, T_j	60°C

*Junction temperature may be determined by attaching a small thermocouple to the transistor shell (allowing 0.2°C/mw temperature drop between junction and shell). Rating may not be exceeded when soldering into circuit or during operation.

AVERAGE CHARACTERISTICS:

(Common Base, $T_j = 30°C$, $f = 270$ cps
$V_c = -5v$, $I_e = 1$ ma)

	DESIGN CENTER
Collector Voltage	−5.0 volts
Emitter Current	1.0 ma
Output Admittance (input open circuit), h_{22}	1.0 umhos
Current Amplification (output short circuit), h_{21}	−.95
Input Impedance (output short circuit), h_{11}	32 ohms
Voltage Feedback Ratio (input open circuit), h_{12}	3×10^{-4}
Collector Cutoff Current, I_{co}	10 μa
Output Capacitance, C_c	40 μμf
Noise Figure ($V_c = -1.5V$; $I_e = 0.5$ ma; $f = 1$ kc; BW = 1 cycle), NF	22 db
**Frequency Cutoff, f_{co}	1.0 mc
Temp. Rise/Unit Collector Dissipation (in free air)	0.5°C/mw
***Temp. Rise/Unit Collector Dissipation (infinite heat sink)	0.2°C/mw

**Frequency at which the magnitude of h_{21} is 3 db down from its 270 cps value.

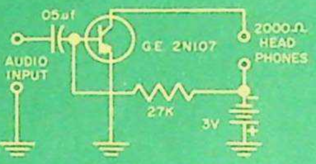
***Temperature rise with transistor clamped to metallic heat sink.

TYPICAL OPERATION. (Small Signal Amplifier):

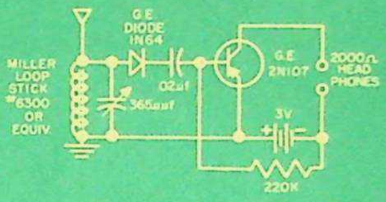
($T_j = 30°C$, $f = 1$ KC)	COMMON BASE	COMMON EMITTER	COMMON COLLECTOR	
Collector Voltage	−5	−5	−5	volts
Emitter Current	1.0	1.0	1.0	ma
Input Impedance	55	700	15,000	ohms
Source Impedance	100	600	15,000	ohms
Load Impedance	50,000	30,000	600	ohms
Power Gain (PG)	28	38	12	db

OTHER TRANSISTOR CIRCUITS

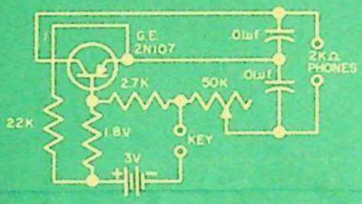
SIMPLE AUDIO AMPLIFIER



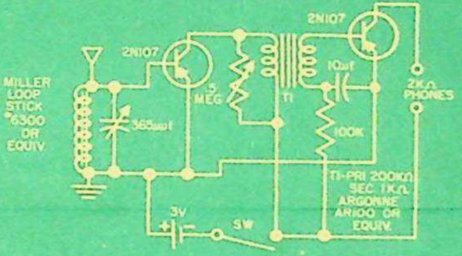
SIMPLE RADIO RECEIVER



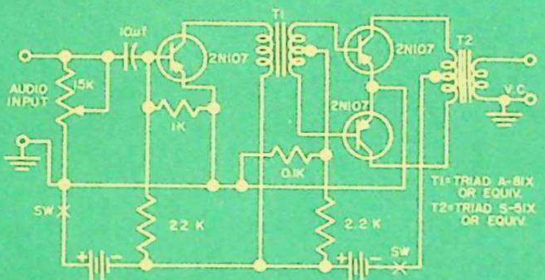
CODE PRACTICE OSCILLATOR



2 TRANSISTOR RADIO RECEIVER

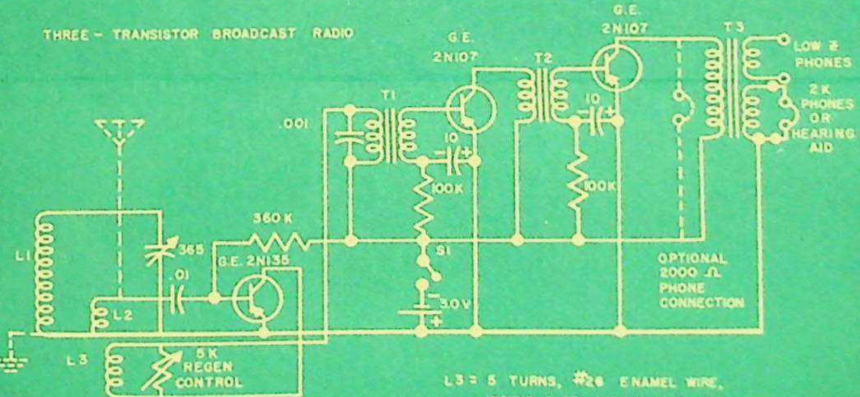

2N107
2N107
MILLER LOOP STICK #6300 OR EQUIV.
365µµf
.5 MEG
T1
10µf
2KΩ PHONES
100K
T1-PRI 200KΩ SEC 1KΩ ARGONNE AR100 OR EQUIV.
3V
SW

LOUDSPEAKER AUDIO AMPLIFIER



T1=TRIAD A-81X OR EQUIV.
T2=TRIAD S-51X OR EQUIV.

THREE - TRANSISTOR BROADCAST RADIO



L1 = 33 TURNS, #26 ENAMEL WIRE CLOSEWOUND IN LOOP ($5\frac{5}{8}$" x $2\frac{7}{8}$")

L2 = 3 TURNS, #26 ENAMEL WIRE, WOUND NEXT TO GROUND END OF L1.

L3 = 5 TURNS, #26 ENAMEL WIRE, WOUND OVER GROUND END OF L1.

T1, T2, T3 UTC OUNCER XMFR
(HI Z PRI AND LO Z SEC)
OR
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